Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

cating others. When we have learned what our condition is, when we have learned, for instance, that the ocean is the surest, quickest, and safest highway for a foe, unless we can outmatch him upon that ocean, when we have learned the truth of our past military history, its failures and extravagance, we shall see clearly where lies our only hope for the future, and doubt will leave us. Here is legitimate work for the universities, the colleges, the schools, and the teachers and students of this country. It is not their part, commendable as is the spirit, to put forward schemes for military instruction and training within academic walls. If this be part of the military scheme recommended to them, let them take it up; but for their own initial work, let them rather teach the broad unbiased truths of military and naval history, let them create an understanding of the national and international problems of the day, let them face the issue squarely, so that an educated public, educated to the truths that bear upon national life and honor, shall intelligently and bravely, without complaint or fear, knowing full well what it does, but forgetting self, offer sacrifice, if need be, for what in truth for us is and shall ever be the greatest country in the world.

THE ECONOMIC AND STRATEGIC VALUE OF THE LINCOLN HIGHWAY AS CONSIDERED FROM THE STANDPOINT OF NATIONAL DEFENSE

By AUSTIN F. BEMENT

SECRETARY OF THE LINCOLN HIGHWAY ASSOCIATION

NATIONAL preparedness for defense is the question of the hour. Public attention has been diverted to this topic by the press and every other agency for the securing of the nation's attention for many months. Undoubtedly it will be the greatest point at issue in the national presidential campaign of 1916. Yet it is not essentially a question of politics, and for this reason has secured the greater interest which is being given it. We are hearing more to-day about the condition of our national defense or lack of defense, and about our army, our navy, and their needs, than at any time since the Spanish-American war. Every point at issue has been argued and re-argued from every standpoint, with the result that the average man's interest in and knowledge of the subject is perhaps greater at this time than at any other time in the history of the country.

Certainly national defense has never secured so thorough and wide an attention as since the outbreak of the European war, and yet in all the discussion of the matter, and it is almost impossible to pick up a daily paper or magazine without finding one or more articles on the

subject, the question of roads from the standpoint of national defense is conspicuous by its absence. Yet the good road has played a most important part in the present European conflict, and its necessity in any plan of national defense is apparent to any student of the conditions which underlie modern mobilization, concentration and military strategy in general.

Brought face to face with the question of national preparedness, we have no more important factor to consider from an economic and strategic standpoint than the development of our road system. In the abstract, this subject is too broad for brief consideration, but no better concrete example can be considered than that of the Lincoln Highway extending from New York to San Francisco, and in considering this road from the standpoint of national defense, it may be considered that we are presenting facts and figures which may be applied to any through, connecting road in this country, or to the country's system of roads as a whole, if we assume that such a thing exists.

The attention of the nation is being called to our facilities and lack of facilities for defense by some of the most learned students of the question in the country, both civilian and military. It is only natural that public interest in this vital question has grown daily as events in Europe have forced upon our attention the costly lessons of modern warfare and the penalty a modern nation pays for unpreparedness. Not the least forceful of these lessons is the necessity for proper means of transportation of men, supplies and artillery by other and more flexible means than by rail.

The rapidity of events which has characterized the present European conflict has been bewildering, due to the extensive use which has been made of the motor-propelled vehicle. So extensive, in fact, has been this use that the present war has been called the motor war, and will doubtless go down in history as such. The cinematographic rapidity of mobilization and concentration by the belligerent powers, reveals the years of scientific preparation which made it possible—preparation of means as well as men.

The rapid movement of troops from frontier to frontier, the swift concentration of forces at needed points, the speed with which maneuvers have been executed, have forced a new system of military tactics, and bring out in a way which has impressed the most thoughtful of our economic students this lesson which we in America need above all others—the importance of roads, good, through, connecting highways, in any plan of national preparedness for defense. They are a necessity at any time, and for a hundred reasons, but we will consider them from the phase to which we have limited ourselves—that of preparedness—and we will consider them in a comparative way with those of the belligerent nations across the sea.

It is certain that England could never have mobilized nearly 100,000 men in 24 hours, as she did in the fall of 1914, over the roads we call "good." To do it she had at her command 150,908 miles of improved public thoroughfares upon which she spends the sum of $40,000,000 each year in upkeep. And these are roads in a country the area of which is less than the state of Florida. Germany could never have massed and hurled her troops at the Belgian frontier over the highways to which we are accustomed. But Germany has 36,000 miles of state road in the best of condition, and in Prussia alone, it may be noted, $36,000,000 a year is spent in keeping these highways in the best of condition.

In Europe the strategic value of the good road has been too often impressed upon the people by the terrors and bloodshed of actual warfare. If for no other reason than their necessity in the movement of troops, the roads of France, England and Germany would be kept up to the high standard which has characterized them for half a century. It is unfortunately true that their peaceful uses seem to be considered incidental.

The development of events in Europe, however, has given us cause to stop and consider our own facilities for transportation. It is to our interest and profit in this connection to compare our possibilities of rapid concentration and movement with the records for efficiency and speed which the past eighteen months have established. The precedents for comparison at our command are relatively few. The entire range of the activities of the Revolutionary war covered a territory less in area than that of the state of Pennsylvania. Yet we know of the hardships suffered by the colonial troops. As we turn the pages of any authentic history of those stirring times, we read again and again of the exhaustive struggles of the men on the long marches. It is difficult for us to conceive at this day the extent of their struggles, but it is a certain fact that these troops suffered untold tortures and endured the greatest of hardships in merely crossing New Jersey, or in marching a few hundred miles in Pennsylvania—a trip which we can make today in a few hours' riding. We can drive by motor to the beautiful chapel which marks the spot where Washington and his men endured the hardships of the winter of 1778, and in so doing, it is doubly hard to believe that we cover in a few moments of comfortable riding the very stretches which meant hours of painful marching to the exhausted continental army. Wherein lies the difference? Not in the motor which would have been useless on the highways of Washington's time. The difference lies entirely in the roads. Had Washington had our present eastern roads over which to maneuver his men, the historic result might have been even more quickly accomplished.

A more modern instance is brought to our consideration by the

events of the civil war. The great rebellion in actual scope covered less territory than is comprised within the boundaries of the state of Nebraska, and yet the terrors of its marches, with men dropping by the roadside with exhaustion or struggling ankle deep in mud with their shoulders to the wheels of heavy artillery which the spent horses could no longer move, are still vividly remembered by the men who survive. There is, indeed, room for comparison here in the ways and means of economic preparedness, but they are insignificant when held up to view beside the events and possibilities of to-day.

The Spanish war furnished an example of confusion in the lack of preparedness and proper facilities, for the movement of our men and supplies with which it is certain our country would be confronted even yet in time of need. This conflict is our only real basis for comparison with conditions such as those with which Germany and the Allies have been confronted, and it pales to insignificance in comparison with the greater conflict now in progress. Much as we regret to acknowledge it, it must be admitted as a fact that our transportation facilities were so inadequate that thousands of freight cars filled with drugs, food, clothing and supplies laid in the railroad yards for weeks and months in such confusion and congestion that the only way of determining the contents of a car was to break it open, and, at that time, the movement of American forces was for the purposes of invasion; there was no menace to our shores, no men were required along our borders, speed of movement was not so essential. Despite the fact that our coast lines were unprotected, they were in small danger.

The latest instance afforded us for the purpose of comparison was the mobilization of regular troops on the Mexican frontier during the administration of President Taft. This was done in an orderly way, but it was a leisurely movement of a comparatively small body of men. The railroads were sufficient.

A misdirected patriotic conception is responsible for the generally accepted thought that millions of men would respond to the call to arms in case of necessity. Accept this as a fact, and we have yet to consider the most serious phase of national defense. Ours is a country of vast area. Its seaboard coasts are thousands of miles apart. It takes no stretch of the imagination to picture the confusion of traffic of any great number of men, whether in Chicago, Detroit, New York, Buffalo, Philadelphia or other central points, in their endeavor to get to the point where they were needed. No authority of statement has ever been voiced that our railroads would be sufficient. It would be a physical impossibility to put even 100,000 men on our western coast inside of a month even without considering the supplies necessary for such a large body. Six railroad lines that can really be called transcontinental, none of them doubletracked through to the coast, would

constitute our only connection with the Pacific coast, should foreign attack be concentrated there. It would take a month to take even a relatively small number there by way of the Panama Canal, and we have none of the marine facilities to be used in such an emergency in transporting men by sea.

The next thought is roads. A system of good roads, even one good road between New York and San Francisco—the strategic value of a completed hard-surfaced, broad, smooth and straight Lincoln Highway from coast to coast—can not be overestimated. Over it without delay we should be able to transport by motor all the men with their accoutrements necessary for the defense of either coast against the inroads of an invading army. There are two million automobiles in the United States to-day, an ample number of which could be placed at the instant disposal of the government at such a time. In one city of the United States last week there were manufactured over 10,000 automobiles. In one month the number manufactured in that city would provide sufficient cars to place an army of 100,000 men on our Pacific coast in from 12 to 15 days. One hundred thousand men, with all their equipment, crossing 3,400 miles in less than three weeks to the defense of their country—it would be the greatest military exploit in the history of the world. It could be done. The United States produces every day more automobiles than the combined factories of all of Europe and the rest of the world can turn out in a month. Given two weeks notice, and more than 50,000 motor cars could be placed at the disposal of the United States War Department. Put only two men to the car, fill the tonneau with food and ammunition, and with 75 feet between the headlights of one car and the tail light of the next, the first would be pulling into Chicago when the last was leaving New York City.

Such a plan is not the mere impractical visioning of theoretical dreamers. It is the result of technical knowledge and far-sighted ability of some of the best military and civilian authorities of the nation, who can not and have not disregarded the lesson which the events of the past eighteen months in Europe have impressed upon the world.

World conditions and war conditions have changed mightily. In no previous conflict of the world's history have we read of a battle line 500 miles in length, or of armies of millions. The facilities for rapid movement and flexible maneuvering of large bodies of men have made wonderful progress in the last few years. We gasp at the rapidity and precision with which great armies of from one to four million men have been mobilized and moved—at the ease with which heavy artillery, guns of a caliber never before movable have been rushed from one battle front to another—but we can not disregard the fact that at the bottom of all this efficiency, of this rapidity and precision of movement, lie the hundreds of miles of good roads which cover Europe like a network.

It is hard to secure for publication or public quotation the real opinions of any of the officers of the United States army on a question of this kind, for obvious reasons. The officers of our national guard are not so hampered or restricted, and the following excerpt from a letter I recently received from Major John F. O'Ryan, division commander of the New York National Guard, will express, I believe, the opinions of the majority of the military officers of the United States forces:

> The value of a coast-to-coast highway, such as the Lincoln Highway, is self-evident from the military point of view. Motor transportation has been developed so rapidly during the past few years and there are now in use in all the states in the union so large a number of commercial trucks, that they constitute an important factor in any problem involving the transportation of men and supplies within the continental limits of the United States in time of war. It may be safely assumed that this wonderful development in mechanical transport of motor transportation will each year have an increased value.
>
> The efficiency, however, of motor transportation is largely dependent upon the character of the route over which the vehicles operate. It is the experience of every motorist touring in this country that the good roads over which rapid progress may be made with safety are unfortunately separated from other roads of like character by miles of wretched country road, and that the good time made in traveling on the former is frequently neutralized by accident and delay superinduced by the latter. It is this "crazy-quilt" pattern of road-making which lessens the value of good road work in the United States so far as military uses are concerned.
>
> The Lincoln Highway project, when completed, will avoid this objection throughout the entire length of the immense travel zone which it will traverse. Few civilians realize how inadequate the great railroad systems of this country would prove for immediate concentration of large military forces with all their horses, mules, wagons, camp equipages, impedimenta and supplies.
>
> The availability of a highway such as The Lincoln Highway would permit its use by fleets of motor trucks carrying supplies, the effect of which would be to relieve to that material extent the pressure on the railroads, and permit the transportation of a greater number of troops in a given time.
>
> Certainly the project would appeal to military officers whose studies force upon their attention the value of time in a defensive operation.

The European war should teach this country more lessons than one. It has brought home emphatically our need for a more adequate national defense. This is a federal consideration. It *should* bring home one of the most obvious and one of the most needed of the lessons—that of good roads—which at present is in this country a state question, a county question and a local question, and one in which every voter should take the most intense and personal interest. We do not have to wait for Congress to provide us with this great aid in an adequate scheme of national defense. We know that roads are an investment and pleasure in time of peace, and a tremendous aid in the transportation of manufactured products and farm produce. We know that they lower the cost of transportation, and thereby lower the cost of living,

and we have had proved to us that they are a necessity and a wonderful aid and defense in time of war.

Let the nation concentrate upon the rapid movement and completion of our main, through, connecting thoroughfares. The Lincoln Highway is the backbone of any national road system in this country. The efforts of the people as a whole should be concentrated upon its permanent completion in hard-surfaced material. The people immediately along the route of the Lincoln Highway realize the tremendous advantages of this road, and their appreciation of these advantages has been shown by the expenditure of over three million dollars in road construction and improvement on that route since its announcement and dedication in 1913.

But the meaning of this road as a connecting link between our two coasts, as a national defense, as a first great object lesson to the people of the country as a whole, should be realized in Maine and Florida, Texas and Oregon, as well as in the states through which the route actually passes. The Lincoln Highway is a *national* road. It should secure national support. Already the force of its example has resulted in hundreds of paralleling and bisecting routes of through travel which, with their branches and countless sub-branches, will eventually cover this country with such a system of roads as has enabled Germany, France, England and the other European belligerents not only to rapidly mobilize their troops for defense or effective offense, but to transport in times of peace the food produce of their farms, and the manufactured products of their countless industries at a cost per ton from one fifth to one twenty-fifth of the American cost. The gigantic sums wasted every year in transportation in this country alone would provide us with a dozen transcontinental, hard-surfaced highways as the foundation for national defense, and a national prosperity hitherto unequalled.

We have no immense standing army, and many question the advisability of one. We have few forts. Our coast defenses are limited, and would be practically impotent against a general and concerted attack. This is admitted by no less an authority than the secretary of war, and has been brought to the attention of the nation by the reports of the general staff. Our navy can be at but one place at a time, and we have the longest coast line of any nation in the world. But give us the means of putting men in great numbers upon either coast with facility and dispatch, give us the means of organizing, mobilizing and transporting our vast citizen soldiery, give us the Lincoln Highway completed, hard-surfaced, connecting the metropolis of our east coast with that of our western shores, give us a system of roads in the United States such as Europe can boast, and our boundaries are as safe as though they were bristling with forts and 18-inch guns.

Abraham Lincoln has said:

> With malice toward none, with charity for all, with firmness in the right as God gives us to see the right, let us strive . . . to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations.

The great war president longed for peace, and it is appropriate that the greatest peaceful work of our people as a whole—a tremendous highway uniting a nation in the bond of brotherhood—should also be a great national defense against war, giving us the means of preserving the peace of our people and the tranquility of our homes against all nations, as well as being a most stupendous memorial conception to the honor of Lincoln.

It has remained for the European war and its bloody lesson of unpreparedness to bring out in an emphatic way another and hitherto disregarded reason why we should unite as a nation in pushing through to completion the Lincoln Highway and its connecting roads.

AGRICULTURAL EFFICIENCY A FOUNDATION FOR NATIONAL DEFENSE

By HOWARD H. GROSS

PRESIDENT OF THE TARIFF COMMISSION LEAGUE, CHICAGO

AGRICULTURE was not only the first, but it is the greatest of the world's industries. One of the sons of our first parents tended the flocks, while the other one tilled the soil. From that day to this, agriculture has led in the advance of civilization, and its status is practically an index of it. The principal needs of mankind and most of the wealth of the world come from the upper two feet of ground. No nation of large area ever became great and remained so that did not feed its people from its own soil. It is a matter of history that the neglect of agriculture marked the beginning of the end of the Roman Empire. One of the highest duties and principal safeguards of any country is a provision for a sure and inexhaustible food supply, and this, if possible, should be produced within its own borders. In our opportunity to do this, we are fortunately situated. God's best physical gift to man is a fertile land that is spread unevenly over a portion of the earth's surface, and of which we have a generous allotment. It is our duty to use and not abuse this great heritage.

In the early days of the republic, when there seemed almost as much fertile land as sky, we were prodigal in the use of the soil, we abused our birthright, and for a hundred years, spreading from a fringe on the Atlantic coat to the golden sands of the Pacific, we have been depleting our soil by one of the most prodigal, wasteful methods of agri-